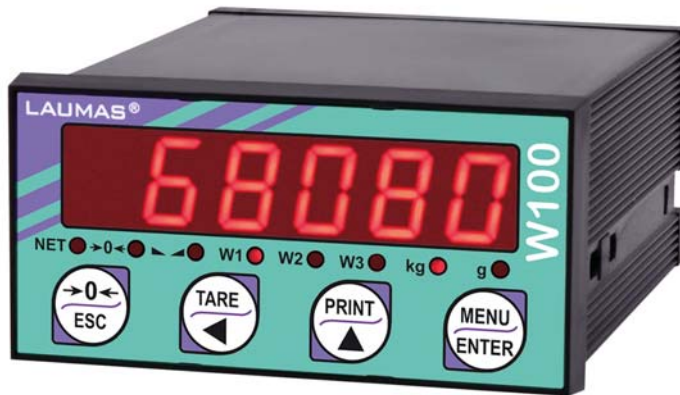




**MODBUS RTU**



### DESCRIPTION

- Weight indicator in DIN box suitable for front panel mounting.
- Dimensions: 96x48x130 mm (drilling template: 92x45 mm).
- 6-digit semi-alphanumeric red LED display (14 mm height).
- 8 signalling LED.
- 4-key keyboard.
- IP54 front panel protection rating (IP65 front optional).
- Real-time clock/calendar with buffer battery.
- Removable screw terminal blocks.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from [www.laumas.com](http://www.laumas.com).

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.
- Weight value printing with date and time via keyboard or external contact.
- The indicator can be used as a remote display with setpoint.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).




→ On request: label support for initial verification


### CE-M (NAWI) e NTEP (SCALES) approved versions

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple range or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).


### CERTIFICATIONS


 OIML R76:2006, class III, 3x10000 divisions, 0.2  $\mu$ V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)


 UL Recognized component - Complies with the United States and Canada standards


 Complies with the Eurasian Custom Union standards


#### CERTIFICATIONS ON REQUEST

 Conformity assessment (initial verification) in combination with Laumas weighing module  
Support for metric label (dimensions: 124x77x1.5 mm)




 NMI Trade Approved - Complies with Australian market regulations for legal for trade use

 Complies with New Zealand regulations for legal for trade use

 Complies with the regulations of the Russian Federation for legal for trade use

 NTEP -  $n_{max}$  10000 - Class III/IIIL - United States and Canada

### TECHNICAL FEATURES

Power supply and consumption	12÷24 VDC $\pm$ 10%; 5 W
Number of load cells • Load cells supply	up to 8 (350 $\Omega$ ) - 4/6 wires • 5 VDC/120 mA
Linearity • Analog output linearity	<0.01% full scale • <0.01% full scale
Thermal drift • Analog output thermal drift	<0.0005% full scale/ $^{\circ}$ C • <0.003% full scale/ $^{\circ}$ C
A/D Converter	24 bit (16000000 points) - 4.8 kHz
Divisions (with measurement range $\pm$ 10 mV and sensitivity 2 mV/V)	$\pm$ 999999 • 0,01 $\mu$ V/d
Measurement range	$\pm$ 39 mV
Usable load cells sensitivity	$\pm$ 7 mV/V
Conversions per second	300/s
Display range	$\pm$ 999999
Decimals • Display increments	0÷4 • x1 x2 x5 x10 x20 x50 x100
Digital filter • Readings per second	10 levels • 5÷300 Hz
Relay outputs	5/4 - max 115 VAC/150 mA
Optoisolated digital inputs	3/2 - 5÷24 VDC PNP
Serial ports	RS485, RS232
Baud rate	2400, 4800, 9600, 19200, 38400, 115200 (bit/s)
Optoisolated analog output (option on request)	16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 $\Omega$ ) 0÷10 V; 0÷5 V; $\pm$ 10 V; $\pm$ 5 V (min 10 k $\Omega$ )
Humidity (condensate free)	85%
Storage temperature	-30 $^{\circ}$ C +80 $^{\circ}$ C
Working temperature	-20 $^{\circ}$ C +60 $^{\circ}$ C
 Relay outputs	5/4 - max 30 VAC, 60 VDC/150 mA
 Working temperature	-20 $^{\circ}$ C +50 $^{\circ}$ C
 Equipment to be powered by 12-24 VDC LPS or Class 2 power source	


#### METROLOGICAL SPECIFICATIONS OF TYPE APPROVED INSTRUMENTS





#### CE-M (NAWI)

#### NTEP (SCALES)





Applied standards	2014/31/UE - EN45501:2015 - OIML R76:2006	NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021
Operation modes	single interval, multi-interval, multiple range	single interval, multi-interval, multiple range
Accuracy class	III or IIIL	III or IIIL
Maximum number of scale verification divisions	10000 (class III); 1000 (class IIIL)	10000 (class III/IIIL)
Minimum input signal for scale verification division	0.2 $\mu$ V/VSI	
Working temperature	-10 $^{\circ}$ C +40 $^{\circ}$ C	-10 $^{\circ}$ C +40 $^{\circ}$ C (+14 $^{\circ}$ F +104 $^{\circ}$ F)

### OPTIONS ON REQUEST

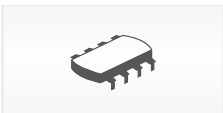
	ACCESSORIES	CODE
	IP65 panel gasket.	OPZW48X96IP65

	INTERFACES	
	Optoisolated 16 bit <b>analog output</b> . → One input and one output not available.	* OPZW1ANALOGICA
	<b>Additional RS485</b> port. → One input and one output not available.	* OPZW1RS485
	Weight reading from 0-10 VDC input (15 kΩ).	OPZWING010
	Weight reading from 4-20 mA input (120 Ω).	OPZWING420

\* Select one option among those marked with an asterisk.

	EXPANSIONS	
	12 groups selection by 5 setpoint via external selector switch.	* EC
	12 groups selection by 5 setpoint via external contact.	* E
	Simultaneous use of E/EC option with the analog output.	OPZWAEC
	External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A.	RELE5M

\* Select one option among those marked with an asterisk.

	APPLICATIONS - SOFTWARE	
	Alibi memory.	OPZ WALIBI